Automated Repetitive Array Microstructure Defect Inspection

Abstract of Disclosure

A method and system for defect inspection of microfabricated structures such as semiconductor wafers, masks or reticles for micro-fabrication, flat panel displays, micro-electro-mechanical (MEMs) having repetitive array regions such as memories or pixels.In one embodiment a method of inspection of microfabricated structures includes the steps of acquiring contrast data or images from the microfabricated structures, analyzing automatically the contrast data or images to find repetitive regions of the contrast data and comparing the repetitive regions of the contrast data with reference data to detect defects in the microfabricated structures. In the analyzing step, a cell-metric such as the range, or mean or other statistical or mathematical measure of the contrast data is used to find the repetitive regions. Image or contrast data acquisition can be performed with an optical, e-beam or other microscope suited for microfabricated structures.

Figures